Control Insect

UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

WASHINGTON, D.C.

Agricultural Research Administration
Forest Insect Laboratory
Coeur d'Alene, Idaho

August 26, 1946

SUMMARY

FOREST INSECT SITUATION REGION ONE

The following description of the forest insect situation within Region One is as we know of it on this date. Each day new infested areas are reported to us so the picture drawn by this report will be materially changed by the end of the season.

FOREST DEFOLIATORS

The present year seems to be the worst of which we have record for the occurrence of insects defoliating forest trees. However, for the past 25 years there has been a rather continuous occurrence of such insect epidemics throughout the region. Past records show that since 1920 there has seldom been a time that there was not an epidemic of some defoliating insect within the region. In describing the present situation a brief history of past epidemics seems necessary to complete the story.

DOUGLAS FIR TUSSOCK MOTH (Hemerocampa pseudotsugata)

Record of Past Epidemics

1918 - First reported from Chase B. C. where large areas of Douglas fir were destroyed.

1927 - Jarbridge, Nevada. Heavy losses of alpine fir.

1928 - Boise and Weiser National Forests, and Craters of the Moon National Monument. Severe timber losses on several thousand acres of Douglas fir.

1929 - Northport, Washington. Cruise of some 10,000 acres on the Colville National Forest showed a loss of approximately 300,000,000 B.F.

1936 - Sawtooth National Forest. On some 3,000 acres of Douglas fir reproduction and mature trees approximately 30% of the trees were destroyed.

copy given Mr. Yost 9-26-46 WEH

Present Situation

In 1944, there were a few small spots of infestation distributed throughout northern Idaho. These were located at Potlatch, Rathdrum, Troy and Sandpoint, Idaho, and at Palouse, Washington. In 1945, we knew of a number of additional spots of infestation throughout the same area, which for the most part consisted of ornamental trees around farm houses. In the fall of 1945, we received reports of a larger area of defoliation on Moscow Mountain near Viola, Idaho, one near Fairfield, Washington, and one immediately north of Potlatch, Idaho. In the spring of 1946, it was quite obvious that these small spots of infestation as well as others of which we had no record, had resulted in the outbreak which has received widespread attention as the Moscow infestation. In addition to this area of at least 300,000 acres, there are tussock moth infestations on the Slade Creek drainage of the Nezperce National Forest along the Salmon River, and at Seeley Lake on the Lolo National Forest.

HEMLOCK LOOPER (Ellopia fiscellaria, Var. lugubrosa)?

Record of Past Epidemics

In 1937, there were 57 areas of known infestation of this insect throughout the forests of northern Idaho and western Montana. These areas which varied from a few to several thousand acres were for the most part along ridge tops conforming to true fir types. These areas represented only the severe defoliation and did not include the light attacks which were reported as scattered throughout entire ranger districts. In areas of severe defoliation the loss was conservatively estimated as being 60% of the injured trees.

Present Situation

In 1945, a severe defoliation of Douglas fir and true fir was reported from the Benton Creek drainage of the Clearwater Timber Protective Association. The identity of the insect responsible was not determined, aside from the fact it belonged to the family of Geometridae or loopers. During the present season, it is obvious that more than one species of looper is involved, and as adult moths are now being obtained, a positive identification of these insects will be possible. At the present time, this infestation has spread throughout the forest areas of the Clearwater and Potlatch Timber Protective Associations. Fortunately, the defoliation has not been overly severe and it is trusted that the outbreak will subside before serious damage occurs. However, along the south and west sides of the Clearwater River scattered groups of Douglas fir trees have been severely defoliated by a looper. There is also a looper infestation in privately owned timber at Summers, Montana, and just recently the Forest Supervisor of the Flathead National Forest reports what he considers as a severe looper infestation extending over two ranger districts on the

North Fork of the Flathead River. The future of these infestations is uncertain and as there are two and perhaps three species of Geometrids involved, it is difficult to predict the 1947 situation.

SPRUCE BUDWORM (Cacoecia fumiferana)

Record of Past Epidemics

1921 - 1926 10,000 acres along Yellowstone River in northern portion of Yellowstone National Park. On large portions of this area, all Douglas fir trees were killed. Total loss was estimated to be 30% of the entire stand.

1922 - 1926 Light infestation at New Meadows, Idaho, and at Priest Lake, Idaho. Considerable top killing but no serious losses.

1922 - 1926 Shoshone National Forest, Cody Canyon. Douglas fir on some 50,000 acres severely damaged. Damage varied from 100% kills to no permanent injury. Total loss estimated to be 50%.

1924 - 1928 Epidemics spread throughout Northern Idaho covering some 700,000 acres. All tree species were attacked, but aside from some killing of white fir the total damage was not severe.

1928 - 1935 Severe defoliation of lodgepole in southwest corner of Yellowstone Park. 25% of the trees on some 15,000 acres were killed.

1932 - 1942 During this period there were 23 small localized outbreaks of this insect reported from the forests of Idaho and Montana.

Present Situation

The greatest loss of timber associated with outbreaks of the spruce budworm seem to result from the Douglas fir bark beetle outbreaks which develops to epidemic populations in trees weakened through defoliation. Since 1940, there have been rather severe outbreaks of the spruce budworm on the Helena and Gallatin National Forests. In these areas the damage has been confined to the top killing of some trees. Fortunately the areas defoliated are composed of small and young trees which are not susceptible to attacks of the Douglas fir bark beetle. During the present season we have received reports of still further outbreaks of this insect on these two forests, and there is a large area on the head of the Lochsa River where the damage is considered as being quite severe. A report has just been received from the Glacier National Park which lists a large area as being severely defoliated by an insect which is believed will prove to be the spruce budworm. A report has also been received from the Lewis and Clark National Forest listing large areas of Douglas fir as seriously defoliated by what is considered as the spruce budworm.

LARCH SAWFLY (Nematus erichsonii)

Record of Past Epidemics

This insect was first recorded on the Flathead National Forest near the Canadian border in 1934. During subsequent years it spread steadily throughout all of the larch forests of northern Idaho and western Montana. During this period we have no record of any larch having been destroyed.

Present Situation

During the 1945 season the severity of this infestation decreased to a point where defoliation was not noticeable. However, during the present season we have had a number of reports of larch sawfly outbreaks and it is possible that this insect may be rebuilding to epidemic proportions. As outbreaks of this insect are not regarded as of great importance, little attention has been given to this situation.

PINE SAWFLIES

Record of Past Epidemics

An outbreak of the lodgepole sawfly, (Neodiprion burkei), at west Yellow-Stone, Montana, in 1921 destroyed practically all trees on some 13,000 acres.

Present Situation

Although we are not sure as to the identity of the species involved, there are sawfly epidemics on ponderosa pine trees at Grangeville, Idaho, and on ponderosa pine reproduction on the Payette National Forest. Adults of these insects have not been obtained to permit a positive identification.

BARK BEETLES

Record of Past Epidemics

The following tabulation is considered as a conservative estimate of past timber losses, resulting from bark beetle attack, for the period 1910 to 1945.

SUMMARY OF TIMBER LOSSES FROM
BARK BEETLE ATTACK

Tree Species	Period 1910-1919	1920-1929	1930-1939	1940-1944	Total 35 Year Period
	Thousand Board Feet				
White Pine	1,137,628	861,840	1,137,628	310,262	3,447,358
Ponderosa Pine	819,525	2,458,575	819,525	1,365,875	5,463,500
Douglas Fir	1,228,773	1,228,773	1,228,773	702,156	4,388,475
Alpine & Grand Fir	365,736	304,780	426,692	121,912	1,219,120
Engelmann Spruce	239,848	239,848	599,620	119,924	1,199,240
Lodgepole Pine	1,772,482	2,261,443	2,016,965	61,120	6,112,010
	5,563,992	7,355,259	6,229,203	2,681,249	21,829,703

Present Situation

I am sorry we are unable to give to you a final picture of the present bark beetle situation. For the past few years the insect survey program in this region has been so inadequate that we had but little knowledge as to the status of bark beetle infestations. During the present season this condition is being partially corrected. From an allotment of Forest Service funds we are obtaining information which is essential in planning for adequate control programs and effective forest management. There are serious mountain pine beetle infestations within the white pine stands of the Yellow Dog, Downey, and Steamboat Creek areas of the Coeur d'Alene National Forest. On the Kootenai National Forest there are potentially dangerous infestations in the white pine stands of the Keeler Creek and upper Yaak River drainages. There are areas on the St. Joe National Forest where preliminary surveys indicate losses of white pine above normal conditions. Intensive surveys to be conducted in these areas will reveal the severity of the infestation and show the need for subsequent control. We recognize the lack of permanency in results obtained from artificial control. However, as long as we have old overmature timber stands, artificial control will need be instituted to hold such timber stands until such time as they can be placed under proper management. To minimize mountain pine beetle damage in white pine, we believe that the greatest benefits will come from keeping such timber stands in a thrifty growing condition, resistant to bark beetle attack.

Throughout the region large volumes of Douglas fir are killed each year by the Douglas fir beetle. This loss occurs in small spots scattered throughout overmature timber stands and in large epidemic outbreaks. We are experiencing heavy losses of Douglas fir in an area near Kalispell,

Montana, which is adjacent to logging operations, where accumulations of Douglas fir tops, cull logs, etc. have been allowed to accumulate.

As far as we know, our loss of Engelmann spruce is at a low level. Several years ago an epidemic of the Engelmann spruce beetle destroyed a tremendous volume of spruce throughout the northwestern portion of Yellowstone National Park and on a number of national forests. Since that time, the loss in this region has been light and confined to old overmature trees.

In the lodgepole pine forests of Region One, we have no serious mountain pine beetle infestations. However, on the Caribou and Teton National Forests there are serious outbreaks, which are rapidly destroying all merchantable trees.

As stated this is not a complete picture of the forest insect situation within Region One, but it is the best which I can present at this time. Later in the season when our surveys have been completed and final ranger reports have been received, another more complete statement showing conditions as we know them at that time will be submitted. I trust that this information will be of interest and service to you.